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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,837	11/20/2001	Chaochieh Tsai	TS01-071	1236
28112	7590	05/11/2004	EXAMINER	
GEORGE O. SAILE & ASSOCIATES 28 DAVIS AVENUE POUGHKEEPSIE, NY 12603			HA, NATHAN W	
			ART UNIT	PAPER NUMBER
			2814	
DATE MAILED: 05/11/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/989,837	<b>Applicant(s)</b> TSAI ET AL.	
	<b>Examiner</b> Nathan W. Ha	<b>Art Unit</b> 2814	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 08 March 2004.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-3,5-12 and 24-26 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☒ Claim(s) 9-12 is/are allowed.

6) ☒ Claim(s) 1-3, 5-8, and 24-26 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
       Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
       a) ☐ All    b) ☐ Some    \* c) ☐ None of:  
           1. ☐ Certified copies of the priority documents have been received.  
           2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
           3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____.
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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1, 5, 8 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Blish et al., US 6,362,524, hereinafter, Blish, previously cited.

In regard to claims 1, 5, and 24, in fig. 12, Blish discloses a method of fabricating an integrated circuit seal ring, see the title and col. 5, lines 28-31, comprising:

providing an active area 144 including semiconductor device structures; and

forming a continuous conductive loop around the perimeter of the integrated circuit whereby the conductive loops has a plurality sections having at least two different alternating widths, wherein each section has a different width from the adjacent sections, fig. 12, wherein the loop formed the seal ring, see fig. 12 and col. 4, lines 42-60. It is noted that even though the segments have the same length but their surface areas are different. Therefore, the impedance of each segment inherently different as also seen in fig. 12. Furthermore, metal is filled in the trench in order to create interconnect, stacked layer. See col. 2, lines 55-65.

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In regard to claim 8, the impedance of each of the different alternating sections since they have different surface areas, see fig.12.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3 and 6-7 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blish et al., the above reference.

In regard to claims 2-3 and 6-7, and 25-26 Blish discloses all of the claimed limitations as mentioned above, but Blish does not expressly disclose the thickness of the conductive loops.

At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the thickness as taught by Blish because applicant has not disclosed that these thicknesses provide an advantage, is used for a particular purpose, or solve a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either thickness because they perform the same function of conductive loops and seal ring.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Blish to obtain the invention as specified in claims 2-3 and 7-8.

Indeed, it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) .

#### ***Allowable Subject Matter***

5. Claims 9-12 are allowed.

#### ***Response to Arguments***

6. Applicant's arguments filed 3/8/04 have been fully considered but they are not persuasive. For instance, Applicants submit that Blish does not mention the difference width of the sections that form the ring. As mentioned above, fig. 12 discloses the protruding portions are wider than their adjacent portions. Surface area is an important factor in calculating impedances. Therefore, each smaller section in fig. 2 inherently provides a characteristic impedance which is different than a larger section; see also fig. 14 wherein the sections protrude higher than the middle portion 104. Metal such as copper is filled in the trench to form interconnect layer. See col. 2, lines 55-65.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (703) 305-3507. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and 308-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nathan Ha  
May 6, 2004



LONG PHAM  
PRIMARY EXAMINER